Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1.   (currently amended): A computer-program-based method for providing a feedback control for a given set of entry and target control quantities χ and u of a system model <u>where χ is an entry utilization value and u is a target utilization value</u>, the method comprising a repetition of the following steps:

    a) providing a time-dependent simulation system model of a system in a computer memory for simulating performance of real hardware for a number n of iterations;

    b) providing a predetermined starting <u>utilization</u> value χ'_1 for each of said entry <u>utilization</u> control quantities χ in said model,

    c) running the model based on said starting values and obtaining a resulting actual <u>utilization</u> value for each of said target <u>utilization</u> control quantities u,

    d) using the values obtained for u to define a new start value for χ for use in a repeated modeling step, ~~and~~

    e) storing in said computer memory for display, at least the value of χ for the last iteration,

    whereby the system method comprises the following formula to calculate the respective next value of the entry <u>utilization</u> control quantities:

$$ x'_{n+1} = \frac{v_n}{1 + p_n(1 - v_n)} $$

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where ρ_n is an accumulated wait time divided by an accumulated
processing time of the system and v is a value according to the
formula:

$$v_n = (n+1)u - n u_n$$

χ'_n being valid for the next iteration only while u_n and ρ_n are
values measured from the beginning of the simulation and,
     f) simulating a multi-processor system in which said
utilization control quantities χ and u are central processor
utilizations in a computer system model wherein utilization is
the percentage of time the central processor utilizes for
processing.

2.   (canceled)

3. (currently amended): A computer program product for providing
a feedback control for a given set of entry and target control
quantities χ and u of a system model where χ is an entry
utilization value and u is a target utilization value, said
computer program product comprising:
     a computer readable medium having recorded thereon computer
readable program code performing the method comprising a
repetition of the following steps:
     a) providing a time-dependent simulation system model of a
system in a computer memory for simulating performance of real
hardware for a number n of iterations;
     b) providing a predetermined starting utilization value χ'_1
for each of said entry utilization control quantities χ in said
model,

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c) running the model based on said starting values and obtaining a resulting actual <u>utilization</u> value for each of said target <u>utilization</u> control quantities u,

d) using the values obtained for u to define a new start value for χ for use in a repeated modeling step, and

e) storing in said computer memory for display, at least the value of χ for the last iteration,

whereby the method comprises the following formula to calculate the respective next value of the entry <u>utilization</u> control quantities:

$$\chi'_{n+1} = \frac{v_n}{1+\rho_n(1-v_n)}$$

where ρ_n is an accumulated wait time divided by an accumulated processing time of the system and v is a value according to the formula:

$$v_n = (n+1)u - nu_n$$

χ'_n being valid for the next iteration only while u_n and ρ_n are values measured from the beginning of the simulation <u>and</u>,

<u>f) simulating a multi-processor system in which said utilization control quantities χ and u are central processor utilizations in a computer system model wherein utilization is the percentage of time the central processor utilizes for processing.</u>

4. (canceled)

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5. (currently amended): A computer system for providing a feedback control for a given set of entry and target control quantities χ and u of a system model <u>where χ is an entry utilization value and u is a target utilization value</u>, the computer system comprising:

    a) a computer memory having a time-dependent simulation system model of a computer system for simulating performance of real hardware for a number n iterations;

    b) a starting <u>utilization</u> value χ'_1 for each of said entry <u>utilization</u> control quantities χ in said system model,

    c) a control element running the system model based on said starting <u>utilization</u> values and obtaining a resulting actual <u>utilization</u> value for each of said target control quantities u,

    d) said control element using the values obtained for u to define a new start value for χ for use in a repeated modeling step, and

    e) storing in said memory for display, the value of χ for the last iteration,

    whereby the control element uses the following formula to calculate the respective next value of the entry <u>utilization</u> control quantities:

$$x'_{n+1} = \frac{v_n}{1 + p_n(1 - v_n)}$$

where p_n is an accumulated wait time divided by an accumulated processing time of the system and v is a value according to the formula:

$$v_n = (n+1)\mu - n\mu_n$$

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χ'_n being valid for the next iteration only while u_n and ρ_n are values measured from the beginning of the simulation <u>and,</u>

   <u>f) simulating a multi-processor system in which said utilization control quantities χ and u are central processor utilizations in a computer system model wherein utilization is the percentage of time the central processor utilizes for processing</u>.

6. (canceled)

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